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H.H.

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER	
FERGUSON, L	
ART UNIT	PAPER NUMBER
1774	4

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 09/487,287	Applicant(s) DE TOFFOL ET AL.	
	Examiner Lawrence Ferguson	Art Unit 1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 January 2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)
16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
18) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
19) ☐ Notice of Informal Patent Application (PTO-152)
20) ☐ Other: .

Detailed Action

Claim Rejections – 35 USC 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-16 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. In claim 1, the term "still more preferably" is a relative term, which renders the claim indefinite.

b. In claim 1, the there is no antecedant basis for "the composite side".

c. In claim 1, the there is no antecedant basis for "the composite area".

d. In claim 1, the phrase "being characterized in that it is constituted" is indefinite.

e. In claim 2, the there is no antecedant basis for "the light".

f. In claim 2, the there is no antecedant basis for "the composite panel".

g. In claim 4, "these" should be written as "the".

h. In claim 6, the use of "such as" is indefinite.

i. In claims 1 and 15, the term "generally" is a relative term, which renders the claim indefinite.

j. In claims 1, 8, 9, 14, and 15, the term "preferably" is a relative term, which renders the claim indefinite.

k. In claim 15, the range "0.5 to 20mm" is indefinite.

l. There is no "panel" as applicant refers to in claims 2-15. Nor is there a "composite panel" of instant claim 16 in claim 1. Claim 1 makes no reference to a "panel" or a "composite panel".

Claim Rejections – 35 USC § 103(a)

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-7, 12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentalbe over Kashima et al. (U.S. 5,442,523).

5. Applicant claims a thermoplastic composite and a panel made of the thermoplastic composite.

6. Kashima discloses a backlighting device for use with display panels that has a light conducting plate and a light source provided in proximity to the end portion of one or both sides of the light conducting plate (column 2, lines 16-20). Backlight devices of displays are analogous to luminous signs. The panel of Kashima can be made by

molding or casting (column 6, lines 48-49). Kashima discloses light diffusing capability and all surfaces of the light conducting plate being covered with a light reflecting plate or film except at least the end portion of the side and on the exit face (column 2, lines 20-26). Kashima discloses single lamp edge lighting, dual lamp edge lighting and edge lighting (column 2, lines 30-48). Kashima discloses barium sulfate (column 3, lines 9-10) can be added to the conducting layer. Kashima discloses light diffusion (column 3, line19). Kashima discloses light diffusing areas (column 3, line 32). Kashima discloses luminous intensity (column 5, lines 36-43). Kashima discloses the total thickness of the sheet is typically 10 to 3000 μm (column 6, lines 2-5). Kashima discloses polymethyl methacrylate PMMA having a thickness of 2mm (column 7, lines 64-66) and which are used as the thermoplastic layer. Kashima discloses a commercial polylcarbonate sheet 360μm thick (column 10, line 33). Polycarbonate is known to be a thermoplastic material. Kashima discloses enhancing means being entirely transparent and comprising at least one sheet (column 14, lines 8-9 and lines 34-44). An area greater than 600 cm^2 is disclosed. Kashima does not disclose the diffusing light layer thickness, or amount by weight or particle size of barium sulfate. It would have been obvious to one of ordinary skill in the art to include the amount by weight and average particle size of barium sulfate claimed by applicant because one of ordinary skill would understand how to adjust the amounts and particle size of BaSO4 based on the amount of light desired to be diffused. It would be well within the skill of the ordinary artisan to optimize the conditions in a process. *In re Aller*, 105 USPQ 223. It would be obvious to

determine the thickness in the range as instantly claimed because discovering an optimum or workable range involves only routine skill in the art.

Claim Rejections – 35 USC § 103(a)

7. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentalbe over Ishii et al. (U.S. 5,710,856).

8. Applicant claims a thermoplastic composite and a panel made of the thermoplastic composite.

9. Ishii discloses a thermoplastic resin film (column 11, line58) and a film having excellent transparency (column 12, lines 30-31). Ishii discloses a light diffusion sheet mounted on a surface (column 6, lines 31-32). Ishii discloses molding the sheet by extrusion (column 7, lines 26-28). According to specification of applicant, a panel is analogous to a sheet (page 3, line 1). Ishii discloses finely powdery inorganic filler such as barium sulfate (column 7, lines 60-63). Ishii discloses the particle size of the finely powdery inorganic filler is in the range of from about 0.1 to 7μm (column 8, lines 16-21). Ishii discloses finely powdery inorganic filler to be added in the range of 100 to 300 parts by weight (column 8, lines 36-48) and adding 5 to 70% by weight of inorganic filler (column 13, lines 58-62). Ishii discloses a light reflective sheet (column 8, line 50). Ishii discloses a single-screw extruder or a twin-screw extruder (column 9, line 32). Ishii discloses sheet molding (column 9,line 46) and a heat fixing treatment (column 9, line 58). Ishii discloses the thickness of the sheet is usually in the range of from 50 to 500μm

(column 10, lines 27-31). Ishii discloses polymethacrylate resins such as polymethyl methacrylate, polyester resins and polyethyl acrylate (column 11, lines 1-11). Ishii discloses luminance (column 17, lines 12-21). Ishii discloses an adhesive method (column 11, line 52). Ishii discloses a UV light protective layer having a thickness in the range 20μm to 40μm (column 19, lines 43-66). Ishii discloses PMMA film (column 20, line 38). Ishii discloses PET film containing an inorganic filler with a thickness range from 12um to 125um (column 21, lines 1-67 and column 22, lines 1-63). Ishii discloses a device selected from a group consisting of back light units of displays, projector system displays and electronic blackboards (column 29, lines 20-24). Back light units of displays are analogous to luminous signs. The area of the composite is more than $600cm^2$. Ishii does not disclose the diffusing light layer thickness or one or more edge lit. The thickness of the diffusing light layer would be expected to be in the range because discovering an optimum or workable range involves only routine skill in the art. It would have been obvious to one skilled in the art to have one or more edge(s) lit because a reflective sheet having an edge lit is conventional in the art.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Ferguson whose telephone number is (703) 305-9978. The examiner can normally be reached on Monday through Friday 8:30 AM – 4:30PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly

can be reached on (703) 308-0449. Please allow the examiner twenty-four hours to return your call.

The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-5408 for regular communications and (703) 305-3599 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2351.

LDF

Lawrence D. Ferguson
Examiner
May 17, 2001

CYNTHIA H. KELLY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

Cynthia H Kelly